

**AMENDMENTS TO THE CLAIMS**

Please amend claims 1, 3, 5-8, 10, 11, 13, 22, 28, and 31, and cancel claims 9, 14-17, 23, 24, and 29, such that the status of the claims is as follows:

1. (Currently amended) A solar electrolysis power source, comprising:

a source of water;

an electrolysis unit, wherein said electrolysis unit is connected with said source of water and receives water from said source of water, and wherein said electrolysis unit provides the electrolysis of said water and produces hydrogen gas and oxygen gas, wherein said electrolysis unit comprises:

an electrolysis chamber, wherein said electrolysis chamber is connected with said source of water, and wherein said electrolysis chamber receives water from said source of water;

a cathode located within said electrolysis chamber, wherein said cathode is connected with said solar panel creating a negative charge at said cathode;

an anode located within said electrolysis chamber, wherein said anode is connected with said solar panel creating a positive charge at said anode;

a pH sensor located within said electrolysis chamber;

a water level sensor located within said electrolysis chamber;

a water fill inlet including a water fill valve, wherein said water fill inlet connects said electrolysis chamber with said source of water;

an electrolyte tank containing an electrolyte and including an electrolyte fill inlet and an electrolyte fill valve, wherein said electrolyte fill inlet connects said electrolyte tank with said electrolysis chamber;

a solar panel, wherein said solar panel is connected with said electrolysis unit, and wherein said solar panel receives solar rays and provides electrical energy to said electrolysis unit;

a hermetically sealed compressor, wherein said hermetically sealed compressor is connected with said electrolysis unit, and wherein said hermetically sealed compressor receives said hydrogen gas from said electrolysis unit;

a hydrogen tank, wherein said hydrogen tank is connected with said hermetically sealed compressor, and wherein said hydrogen tank receives said hydrogen gas from said hermetically sealed compressor; and

a fuel cell, wherein said fuel cell is connected with said hydrogen tank, and wherein said fuel cell receives said hydrogen gas from said hydrogen tank.

2. (Original) The solar electrolysis power source of claim 1, further comprising a system controller, wherein said system controller is connected with said solar panel, said electrolysis unit, said hermetically sealed compressor, and said hydrogen tank.

3. (Currently amended) The solar electrolysis power source of claim ~~[[1]]~~ 2, further comprising an AC power source, wherein said AC power source is connected with said electrolysis unit, and wherein said AC power source provides electrical energy to said electrolysis unit.

4. (Original) The solar electrolysis power source of claim 3, wherein said system controller connects said AC power source with said electrolysis unit.

5. (Currently amended) The solar electrolysis power source of claim 1, and further comprising:  
~~wherein said electrolysis unit comprises:~~

~~an electrolysis chamber, wherein said electrolysis chamber is connected with said source of water, and wherein said electrolysis chamber receives water from said source of water;~~  
~~a cathode located within said electrolysis chamber, wherein said cathode is connected with said solar panel creating a negative charge at said cathode;~~  
~~an anode located within said electrolysis chamber, wherein said anode is connected with said solar panel creating a positive charge at said anode;~~  
~~a pH sensor located within said electrolysis chamber;~~  
~~a water level sensor located within said electrolysis chamber;~~  
~~a water fill inlet including a water fill valve, wherein said water fill inlet connects said electrolysis chamber with said source of water;~~  
~~an electrolyte tank containing an electrolyte and including an electrolyte fill inlet and an electrolyte fill valve, wherein said electrolyte fill inlet connects said electrolyte tank with said electrolysis chamber;~~  
an oxygen vent including an oxygen vent valve, wherein said oxygen vent connects said electrolysis chamber with the outside atmosphere; and  
a hydrogen vent, wherein said hydrogen vent connects said electrolysis chamber with said hermetically sealed compressor.

6. (Currently amended) The solar electrolysis power source of claim [[1]] 2, wherein said hydrogen tank comprises:

a hydrogen tank fill valve, wherein said hydrogen tank fill valve is located between said hermetically sealed compressor and said hydrogen tank;  
a hydrogen tank output valve, wherein said hydrogen tank output valve is located between said hydrogen tank and said fuel cell; and  
a pressure gauge, wherein said pressure gauge indicates the pressure of said hydrogen gas stored inside said hydrogen tank.

7. (Currently amended) The solar electrolysis power source of claim [[1]] 6, further comprising a data and control bus, wherein said data and control bus connects said system controller with said pH sensor, said water level sensor, said water fill valve, said electrolyte fill valve, said oxygen vent valve, said hydrogen tank fill valve, said hydrogen tank output valve, said pressure gauge of said hydrogen tank, and said hermetically sealed compressor.

8. (Currently amended) The solar electrolysis power source of claim [[1]] 2, wherein said system controller controls said electrolyte control valve in response to said pH sensor to add electrolyte ~~is added~~ to said water contained within said electrolysis chamber to maintain ~~creating~~ a pH value between 6 and 7.

9. (Canceled)

10. (Currently amended) A solar electrolysis power source, comprising:

a source of water;

an electrolysis unit, wherein said electrolysis unit is connected with said source of water and receives water from said source of water, and wherein said electrolysis unit provides the electrolysis of said water and produces hydrogen gas and oxygen gas; wherein said electrolysis unit comprises:  
an electrolysis chamber including an oxygen chamber and a hydrogen chamber, wherein said electrolysis chamber is connected with said source of water, and wherein said electrolysis chamber receives water from said source of water;

a cathode located within said hydrogen chamber, wherein said cathode is connected with said solar panel creating a negative charge at said cathode;

an anode located within said oxygen chamber, wherein said anode is connected with said solar panel creating a positive charge at said anode;

a pH sensor located within said electrolysis chamber;

a water level sensor located within said electrolysis chamber;

a water fill inlet including a water fill valve, wherein said water fill inlet connects said electrolysis chamber with said source of water;

an electrolyte tank containing an electrolyte and including an electrolyte fill inlet and an electrolyte fill valve, wherein said electrolyte fill inlet connects said electrolyte tank with said electrolysis chamber;

a solar panel, wherein said solar panel is connected with said electrolysis unit, and wherein said solar panel receives solar rays and provides electrical energy to said electrolysis unit;

an AC power source, wherein said AC power source is connected with said electrolysis unit, and wherein said AC power source provides electrical energy to said electrolysis unit;

a hermetically sealed compressor, wherein said hermetically sealed compressor is connected with said electrolysis unit, and wherein said hermetically sealed compressor receives said hydrogen gas from said electrolysis unit;

a hydrogen tank, wherein said hydrogen tank is connected with said hermetically sealed compressor, and wherein said hydrogen tank receives said hydrogen gas from said hermetically sealed compressor;

a fuel cell, wherein said fuel cell is connected with said hydrogen tank, and wherein said fuel cell receives said hydrogen gas from said hydrogen tank;  
and

a system controller, wherein said system controller is connected with said solar panel, said AC power source, said electrolysis unit, said hermetically sealed compressor, and said hydrogen tank.

11. (Currently amended) The solar electrolysis power source of claim 10, and further comprising:  
~~wherein said electrolysis unit comprises:~~

~~an electrolysis chamber including an oxygen chamber and an hydrogen chamber,  
wherein said electrolysis chamber is connected with said source of water,  
and wherein said electrolysis chamber receives water from said source of  
water;~~

~~a cathode located within said hydrogen chamber, wherein said cathode is  
connected with said solar panel creating a negative charge at said cathode;~~

~~an anode located within said oxygen chamber, wherein said anode is connected  
with said solar panel creating a positive charge at said anode;~~

~~a pH sensor located within said electrolysis chamber;~~

~~a water level sensor located within said electrolysis chamber;~~

~~a water fill inlet including a water fill valve, wherein said water fill inlet connects  
said electrolysis chamber with said source of water;~~

~~an electrolyte tank containing an electrolyte and including an electrolyte fill inlet  
and an electrolyte fill valve, wherein said electrolyte fill inlet connects said  
electrolyte tank with said electrolysis chamber;~~

~~an oxygen vent including an oxygen vent valve, wherein said oxygen vent [[is]]  
connects said oxygen chamber of said electrolysis chamber with the  
outside atmosphere; and~~

~~a hydrogen vent, wherein said hydrogen vent connects said hydrogen chamber of  
said electrolysis chamber with said hermetically sealed compressor.~~

12. (Original) The solar electrolysis power source of claim 10, further comprising:

- a hydrogen tank fill valve, wherein said hydrogen tank fill valve is located between said hermetically sealed compressor and said hydrogen tank;
- a hydrogen tank output valve, wherein said hydrogen tank output valve is located between said hydrogen tank and said fuel cell;
- a pressure gauge, wherein said pressure gauge indicates the pressure of said hydrogen gas stored inside said hydrogen tank; and
- a data and control bus, wherein said data and control bus connects said system controller with said pH sensor, said water level sensor, said water fill valve, said electrolyte fill valve, said oxygen vent valve, said hydrogen tank fill valve, said hydrogen tank output valve, said pressure gauge of said hydrogen tank, and said hermetically sealed compressor.

13. (Currently amended) The solar electrolysis power source of claim 10, wherein said source of water is a water tank for holding water.

14-17. (Canceled)

18. (Original) A solar electrolysis power source, comprising:

- a water tank holding water;
- an electrolysis unit, wherein said electrolysis unit is connected with said water tank and receives said water from said water tank, wherein said electrolysis unit facilitates the electrolysis of said water and produces hydrogen gas and oxygen gas, and wherein said electrolysis unit comprises:
  - an electrolysis chamber including an oxygen chamber and a hydrogen chamber, wherein said electrolysis chamber is connected with said

- water tank and wherein said electrolysis chamber receives water from said water tank;
- a cathode located within said hydrogen chamber, wherein said cathode is connected with said solar panel creating a negative charge at said cathode;
- an anode located within said oxygen chamber, wherein said anode is connected with said solar panel creating a positive charge at said anode;
- a pH sensor located within said electrolysis chamber;
- a water level sensor located within said electrolysis chamber;
- a water fill inlet including a water fill valve, wherein said water fill inlet connects said electrolysis chamber with said source water tank;
- an electrolyte tank containing an electrolyte and including an electrolyte fill inlet and an electrolyte fill valve, wherein said electrolyte fill inlet connects said electrolyte tank with said electrolysis chamber;
- an oxygen vent including an oxygen vent valve, wherein said oxygen vent connects said oxygen chamber of said electrolysis chamber with the outside atmosphere; and
- a hydrogen vent, wherein said hydrogen vent connects said hydrogen chamber of said electrolysis chamber with said hermetically sealed compressor;
- a solar panel, wherein said solar panel is connected with said electrolysis unit, and wherein said solar panel receives solar rays and provides electrical energy to said electrolysis unit;
- an AC power source, wherein said AC power source is connected with said electrolysis unit and wherein said AC power source provides electrical energy to said electrolysis unit;



a hydrogen tank, wherein said hydrogen tank is connected with said hermetically sealed compressor, wherein said hydrogen tank receives said hydrogen gas from said hermetically sealed compressor, and wherein said hydrogen tank comprises:

a hydrogen tank fill valve, wherein said hydrogen tank fill valve is located between said hermetically sealed compressor and said hydrogen tank;

a hydrogen tank output valve, wherein said hydrogen tank output valve is located between said hydrogen tank and said fuel cell; and

a pressure gauge, wherein said pressure gauge indicates the pressure of said hydrogen gas stored inside said hydrogen tank;

a fuel cell, wherein said fuel cell is connected with said hydrogen tank, and wherein said fuel cell receives said hydrogen gas from said hydrogen tank;

a system controller, wherein said system controller is connected with said solar panel, said AC power source, said electrolysis unit, said hermetically sealed compressor, and said hydrogen tank; and

a data and control bus, wherein said data and control bus connects said system controller with said pH sensor, said water level sensor, said water fill valve, said electrolyte fill valve, said oxygen vent valve, said hydrogen tank fill valve, said hydrogen tank output valve, said pressure gauge of said hydrogen tank, and said hermetically sealed compressor.

19. (Original) The solar electrolysis power source of claim 18, wherein said oxygen is collected in said oxygen chamber of said electrolysis chamber.

20. (Original) The solar electrolysis power source of claim 18, wherein said hydrogen is collected in said hydrogen chamber of said electrolysis chamber.

21. (Original) The solar electrolysis power source of claim 18, wherein the pH value of said water contained in said electrolysis chamber is maintained between 6 and 7 by adding said electrolyte from said electrolyte tank.

22. (Currently amended) A hydrogen-powered vehicle, comprising:

a solar electrolysis power source that is mounted on said vehicle, wherein said solar electrolysis power source comprises:

a water tank holding water;

an electrolysis unit, wherein said electrolysis unit is connected with said water tank and receives said water from said water tank, and wherein said electrolysis unit provides the electrolysis of said water and produces hydrogen gas and oxygen gas wherein said electrolysis unit comprises:

an electrolysis chamber, wherein said electrolysis chamber is connected with said source of water, and wherein said electrolysis chamber receives water from said source of water;

a cathode located within said electrolysis chamber, wherein said cathode is connected with said solar panel creating a negative charge at said cathode;

an anode located within said electrolysis chamber, wherein said anode is connected with said solar panel creating a positive charge at said anode;

a pH sensor located within said electrolysis chamber;

a water level sensor located within said electrolysis chamber;

a water fill inlet including a water fill valve, wherein said water fill inlet connects said electrolysis chamber with said source of water;

an electrolyte tank containing an electrolyte and including an electrolyte fill inlet and an electrolyte fill valve, wherein said electrolyte fill inlet connects said electrolyte tank with said electrolysis chamber;

a solar panel, wherein said solar panel is connected with said electrolysis unit, and wherein said solar panel receives solar rays and provides electrical energy to said electrolysis unit;

an AC power source, wherein said AC power source is connected with said electrolysis unit, and wherein said AC power source provides electrical energy to said electrolysis unit;

~~a hermetically sealed compressor, wherein said hermetically sealed compressor is connected with said electrolysis unit, and wherein said hermetically sealed compressor receives said hydrogen gas from said electrolysis unit;~~

a hydrogen tank, wherein said hydrogen tank is connected with said hermetically sealed compressor, and wherein said hydrogen tank receives said hydrogen gas ~~from said hermetically sealed compressor~~ produced by the electrolysis unit;

a fuel cell, wherein said fuel cell is connected with said hydrogen tank, and wherein said fuel cell receives said hydrogen gas from said hydrogen tank; and

a system controller, wherein said system controller is connected with said solar panel, said AC power source, said

electrolysis unit, said hermetically sealed compressor, and  
said hydrogen tank.

23-24. (Canceled)

25. (Original) The hydrogen-powered vehicle of claim 22, wherein said electrical energy provided by said AC power source stimulates the electrolysis of said water in said electrolysis chamber and produces said oxygen gas at said anode and said hydrogen gas at said cathode.

26. (Original) The hydrogen-powered vehicle of claim 22, wherein said hydrogen gas is collected in said hydrogen chamber of said electrolysis chamber.

27. (Original) The hydrogen-powered vehicle of claim 22, wherein said oxygen is collected in said oxygen chamber of said electrolysis chamber.

28. (Currently amended) A method for generating power by utilizing the electrolysis of water and solar energy, comprising the steps of:

providing a solar panel that receives solar rays and generates electrical energy;

providing a source of water;

connecting an electrolysis unit including an anode and a cathode with said solar  
panel and said source of water;

filling said electrolysis unit with said water;

adding an electrolyte to said water in said electrolysis unit;

maintaining a pH value of said water in said electrolysis unit between 6 and 7;

providing said electrical energy generated by said solar panel to said anode and  
said cathode of said electrolysis unit;

producing oxygen gas and hydrogen gas with said electrolysis unit;

connecting a hermetically sealed compressor with said electrolysis unit[[,]] ;  
directing said hydrogen gas to said hermetically sealed compressor;  
providing a hydrogen tank and connecting said hydrogen tank with said  
hermetically sealed compressor;  
pumping said hydrogen gas into said hydrogen tank with said hermetically sealed  
compressor;  
connecting a fuel cell with said hydrogen tank;  
delivering said hydrogen gas from said hydrogen tank to said fuel cell; and  
generating electrical energy with said fuel cell.

29. (Canceled)

30. (Original) The method for generating power by utilizing the electrolysis of water and solar energy of claim 28, further comprising the step of powering a vehicle with said electrical energy generated by said fuel cell.

31. (Currently amended) A method for generating power by utilizing the electrolysis of water and solar energy, comprising the steps of:

providing a solar electrolysis power source including:

a source of water;

an electrolysis unit, wherein said electrolysis unit is connected with said  
source of water and receives water from said source of water, and  
wherein said electrolysis unit provides the electrolysis of said water  
and produces hydrogen gas and oxygen gas;

a solar panel, wherein said solar panel is connected with said electrolysis  
unit, and wherein said solar panel receives solar rays and provides  
electrical energy to said electrolysis unit;

an AC power source, wherein said AC power source is connected with said electrolysis unit, and wherein said AC power source provides electrical energy to said electrolysis unit;

a hermetically sealed compressor, wherein said hermetically sealed compressor is connected with said electrolysis unit, and wherein said hermetically sealed compressor receives said hydrogen gas from said electrolysis unit;

a hydrogen tank, wherein said hydrogen tank is connected with said hermetically sealed compressor, and wherein said hydrogen tank receives said hydrogen gas from said hermetically sealed compressor;

a fuel cell, wherein said fuel cell is connected with said hydrogen tank, and wherein said fuel cell receives said hydrogen gas from said hydrogen tank; and

a system controller, wherein said system controller is connected with said solar panel, said AC power source, said electrolysis unit, said hermetically sealed compressor, and said hydrogen tank;

generating electrical energy with said solar panel;

filling said electrolysis unit with said water;

maintaining a pH value of said water in said electrolysis unit between 6 and 7;

providing said electrical energy generated by said solar panel to said electrolysis unit;

producing oxygen gas and hydrogen gas with said electrolysis unit through electrolysis of said water;

directing said hydrogen gas to said hermetically sealed compressor;

pumping said hydrogen gas into said hydrogen tank with said hermetically sealed compressor;

delivering said hydrogen gas from said hydrogen tank to said fuel cell; and  
generating electrical energy with said fuel cell.

32. (Original) The method for generating power by utilizing the electrolysis of water and solar energy of claim 31, further comprising the step of venting said oxygen gas into the atmosphere.

33. (Original) The method for generating power by utilizing the electrolysis of water and solar energy of claim 31, further comprising the step of powering a portable power tool with said electrical energy generated by said fuel cell.

34. (Original) The method for generating power by utilizing the electrolysis of water and solar energy of claim 31, further comprising the steps of:

- providing an AC power source;
- connecting said AC power source with said electrolysis unit; and
- providing electrical energy to said electrolysis unit.